

WHAT IS CLAIMED IS:

1. A mobile radio communication system in which location-limited mobile stations can be used, comprising:

a registered area storage means in which information concerning registered areas, which have been registered as areas where a location-limited mobile station is allowed to originate a call, is stored with regard to each location-limited mobile station;

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a registered area search means for referring to the registered area storage means and thereby searching for the registered areas of a location-limited mobile station when the location-limited mobile station originated a call;

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an area comparison means for comparing the registered areas of the location-limited mobile station searched by the registered area search means with present location areas of the location-limited mobile station and thereby judging whether or not a match occurred between the registered areas and the present location areas; and

15 a connection establishment means for executing a connection establishment process for the location-limited mobile station if a match occurred in the judgment by the area comparison means.

2. A mobile radio communication system as claimed in claim 1, wherein the registered area storage means is designed so that the registered areas of each location-limited mobile station can be altered so as to change the total area of the registered areas.

3. A mobile radio communication system as claimed in claim 1, wherein the registered area storage means is designed so that the registered areas of each location-limited mobile station can be altered to alternative registered areas during a preset period.

4. A mobile radio communication system in which location-limited mobile stations can be used, comprising:

a registered area storage means in which information concerning registered areas, which have been registered as areas where a location-limited mobile station is allowed to conduct communication, is stored with regard to each location-limited mobile station;

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5 a present location area tracking means for keeping track of present location areas of a location-limited mobile station when the location-limited mobile station is conducting communication;

10 a registered area search means for referring to the registered area storage means and thereby searching for the registered areas of the location-limited mobile station;

15 an area comparison means for comparing the registered areas of the location-limited mobile station searched by the registered area search means with the present location areas of the location-limited mobile station tracked by the present location area tracking means and thereby judging whether or not a match occurred between the registered areas and the present location areas; and

20 a disconnection means for disconnecting the communication conducted by the location-limited mobile station if no match occurred in the judgment by the area comparison means.

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5. A mobile radio communication system as claimed in claim 4, wherein the registered area storage means is designed so that the registered areas of each location-limited mobile station can be altered so as to change the total area of the registered areas.

6. A mobile radio communication system as claimed in claim 4, wherein the registered area storage means is designed so that the registered areas of each location-limited mobile station can be altered to

alternative registered areas during a preset period.

7. A mobile radio communication system in which location-limited mobile stations can be used, comprising:

a registered area storage means in which information concerning registered areas, which have been registered as areas where a location-limited mobile station is allowed to receive an incoming call, is stored with regard to each location-limited mobile station;

a registered area search means for referring to the registered area storage means and thereby searching for the registered areas of a location-limited mobile station when an incoming call to the location-limited mobile station occurred;

an area comparison means for comparing the registered areas of the location-limited mobile station searched by the registered area search means with present location areas of the location-limited mobile station and thereby judging whether or not a match occurred between the registered areas and the present location areas; and

a connection establishment means for executing a connection establishment process for the location-limited mobile station if a match occurred in the judgment by the area comparison means.

8. A mobile radio communication system as claimed in claim 7, wherein the registered area storage means is designed so that the registered areas of each location-limited mobile station can be altered so as to change the total area of the registered areas.

9. A mobile radio communication system as claimed in claim 7, wherein the registered area storage means is designed so that the registered areas of each location-limited mobile station can be altered to alternative registered areas during a preset period.

10. A mobile radio communication system in which location-limited mobile stations can be used, comprising:

5 a registered area storage means in which information concerning registered areas, which have been registered as areas where a location-limited mobile station is allowed to receive an incoming call, is stored with regard to each location-limited mobile station;

10 a registered area search means for referring to the registered area storage means and thereby searching for the registered areas of a location-limited mobile station when an incoming call to the location-limited mobile station occurred;

15 a paging means for letting base transceiver stations corresponding to the registered areas page the location-limited mobile station in the registered areas; and

15 a connection establishment means for executing a connection establishment process for the location-limited mobile station if the location-limited mobile station made a response to the paging.

11. A mobile radio communication system as claimed in claim 10, wherein the registered area storage means is designed so that the registered areas of each location-limited mobile station can be altered so as to change the total area of the registered areas.

12. A mobile radio communication system as claimed in claim 10, wherein the registered area storage means is designed so that the registered areas of each location-limited mobile station can be altered to alternative registered areas during a preset period.

13. A mobile radio communication system in which location-limited mobile stations can be used, comprising:

15 a registered area storage means in which information concerning

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5 registered areas, which have been registered as areas where a location-limited mobile station is allowed to receive an incoming call, is stored with regard to each location-limited mobile station;

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a paging means for letting base transceiver stations page a location-limited mobile station when an incoming call to the location-limited mobile station occurred;

10 a registered area search means for referring to the registered area storage means and thereby searching for the registered areas of the location-limited mobile station; and

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a connection establishment means for executing a connection establishment process for the location-limited mobile station if the location-limited mobile station made a response to the paging from its registered areas.

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14. A mobile radio communication system as claimed in claim 13, wherein the registered area storage means is designed so that the registered areas of each location-limited mobile station can be altered so as to change the total area of the registered areas.

15. A mobile radio communication system as claimed in claim 13, wherein the registered area storage means is designed so that the registered areas of each location-limited mobile station can be altered to alternative registered areas during a preset period.

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16. A mobile radio communication method for a mobile radio communication system in which location-limited mobile stations can be used, comprising the steps of:

5 a registered area search step in which a registered area storage means, in which information concerning registered areas which have been registered as areas where a location-limited mobile station is

allowed to originate a call is stored with regard to each location-limited mobile station, is referred to and thereby the registered areas of a location-limited mobile station is searched for when the location-limited mobile station originated a call;

10 an area comparison step in which the registered areas of the location-limited mobile station searched in the registered area search step are compared with present location areas of the location-limited mobile station and thereby whether or not a match occurred between the 15 registered areas and the present location areas is judged; and

16 a connection establishment step in which a connection establishment process is executed for the location-limited mobile station if a match occurred in the area comparison step.

17. A mobile radio communication method as claimed in claim 16, wherein the registered areas of each location-limited mobile station are allowed to be altered so as to change the total area of the registered areas.

18. A mobile radio communication method as claimed in claim 16, wherein the registered areas of each location-limited mobile station are allowed to be altered to alternative registered areas during a preset period.

19. A mobile radio communication method for a mobile radio communication system in which location-limited mobile stations can be used, comprising the steps of:

5 a present location area tracking step in which present location areas of a location-limited mobile station are kept track of when the location-limited mobile station is conducting communication;

a registered area search step in which a registered area storage

means, in which information concerning registered areas which have been registered as areas where a location-limited mobile station is allowed to conduct communication is stored with regard to each location-limited mobile station, is referred to and thereby the registered areas of the location-limited mobile station is searched for;

an area comparison step in which the registered areas of the location-limited mobile station searched in the registered area search step are compared with the present location areas of the location-limited mobile station tracked in the present location area tracking step and thereby whether or not a match occurred between the registered areas and the present location areas is judged; and

a disconnection step in which the communication conducted by the location-limited mobile station is disconnected if no match occurred in the area comparison step.

20. A mobile radio communication method as claimed in claim 19, wherein the registered areas of each location-limited mobile station are allowed to be altered so as to change the total area of the registered areas.

21. A mobile radio communication method as claimed in claim 19, wherein the registered areas of each location-limited mobile station are allowed to be altered to alternative registered areas during a preset period.

22. A mobile radio communication method for a mobile radio communication system in which location-limited mobile stations can be used, comprising the steps of:

5 a registered area search step in which a registered area storage means, in which information concerning registered areas which have

been registered as areas where a location-limited mobile station is allowed to receive an incoming call is stored with regard to each location-limited mobile station, is referred to and thereby the registered areas of a location-limited mobile station is searched for when an incoming call to the location-limited mobile station occurred;

an area comparison step in which the registered areas of the location-limited mobile station searched in the registered area search step are compared with present location areas of the location-limited mobile station and thereby whether or not a match occurred between the registered areas and the present location areas is judged; and

15 a connection establishment step in which a connection establishment process is executed for the location-limited mobile station if a match occurred in the area comparison step.

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23. A mobile radio communication method as claimed in claim 22, wherein the registered areas of each location-limited mobile station are allowed to be altered so as to change the total area of the registered areas.

24. A mobile radio communication method as claimed in claim 22, wherein the registered areas of each location-limited mobile station are allowed to be altered to alternative registered areas during a preset period.

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25. A mobile radio communication method for a mobile radio communication system in which location-limited mobile stations can be used, comprising the steps of:

a registered area search step in which a registered area storage means, in which information concerning registered areas which have been registered as areas where a location-limited mobile station is

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allowed to receive an incoming call is stored with regard to each location-limited mobile station, is referred to and thereby the registered areas of a location-limited mobile station is searched for when an incoming call to the location-limited mobile station occurred;

10 a paging step in which the location-limited mobile station is paged in the registered areas; and

a connection establishment step in which a connection establishment process is executed for the location-limited mobile station
15 if the location-limited mobile station made a response to the paging.

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26. A mobile radio communication method as claimed in claim 25, wherein the registered areas of each location-limited mobile station are allowed to be altered so as to change the total area of the registered areas.

27. A mobile radio communication method as claimed in claim 25, wherein the registered areas of each location-limited mobile station are allowed to be altered to alternative registered areas during a preset period.

28. A mobile radio communication method for a mobile radio communication system in which location-limited mobile stations can be used, comprising the steps of:

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a paging step in which a location-limited mobile station is paged when an incoming call to the location-limited mobile station occurred;

a registered area search step in which a registered area storage means, in which information concerning registered areas which have been registered as areas where a location-limited mobile station is allowed to receive an incoming call is stored with regard to each location-

10 limited mobile station, is referred to and thereby the registered areas of

the location-limited mobile station is searched for; and

a connection establishment step in which a connection establishment process is executed for the location-limited mobile station if the location-limited mobile station made a response to the paging from its registered areas.

29. A mobile radio communication method as claimed in claim 28, wherein the registered areas of each location-limited mobile station are allowed to be altered so as to change the total area of the registered areas.

30. A mobile radio communication method as claimed in claim 28, wherein the registered areas of each location-limited mobile station are allowed to be altered to alternative registered areas during a preset period.

31. A machine-readable record medium storing a program for instructing a machine, a computer unit, etc. to execute a mobile radio communication method for a mobile radio communication system in which location-limited mobile stations can be used, wherein the mobile radio communication method comprises the steps of:

a registered area search step in which a registered area storage means, in which information concerning registered areas which have been registered as areas where a location-limited mobile station is allowed to originate a call is stored with regard to each location-limited mobile station, is referred to and thereby the registered areas of a location-limited mobile station is searched for when the location-limited mobile station originated a call;

an area comparison step in which the registered areas of the location-limited mobile station searched in the registered area search

15 step are compared with present location areas of the location-limited mobile station and thereby whether or not a match occurred between the registered areas and the present location areas is judged; and

20 a connection establishment step in which a connection establishment process is executed for the location-limited mobile station if a match occurred in the area comparison step.

32. A machine-readable record medium as claimed in claim 31, wherein the registered areas of each location-limited mobile station are allowed to be altered so as to change the total area of the registered areas.

33. A machine-readable record medium as claimed in claim 31, wherein the registered areas of each location-limited mobile station are allowed to be altered to alternative registered areas during a preset period.

34. A machine-readable record medium storing a program for instructing a machine, a computer unit, etc. to execute a mobile radio communication method for a mobile radio communication system in which location-limited mobile stations can be used, wherein the mobile radio communication method comprises the steps of:

5 a present location area tracking step in which present location areas of a location-limited mobile station are kept track of when the location-limited mobile station is conducting communication;

10 a registered area search step in which a registered area storage means, in which information concerning registered areas which have been registered as areas where a location-limited mobile station is allowed to conduct communication is stored with regard to each location-limited mobile station, is referred to and thereby the registered areas of the location-limited mobile station is searched for;

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15 an area comparison step in which the registered areas of the
location-limited mobile station searched in the registered area search
step are compared with the present location areas of the location-limited
mobile station tracked in the present location area tracking step and
thereby whether or not a match occurred between the registered areas
and the present location areas is judged and

20 a disconnection step in which the communication conducted by the
location-limited mobile station is disconnected if no match occurred in the
area comparison step.

35. A mobile radio communication method as claimed in claim
34, wherein the registered areas of each location-limited mobile station
are allowed to be altered so as to change the total area of the registered
areas.

36. A mobile radio communication method as claimed in claim
34, wherein the registered areas of each location-limited mobile station
are allowed to be altered to alternative registered areas during a preset
period.

37. A machine-readable record medium storing a program for
instructing a machine, a computer unit, etc. to execute a mobile radio
communication method for a mobile radio communication system in
which location-limited mobile stations can be used, wherein the mobile
radio communication method comprises the steps of:

5 a registered area search step in which a registered area storage
means, in which information concerning registered areas which have
been registered as areas where a location-limited mobile station is
allowed to receive an incoming call is stored with regard to each location-
limited mobile station, is referred to and thereby the registered areas of a

location-limited mobile station is searched for when an incoming call to the location-limited mobile station occurred;

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an area comparison step in which the registered areas of the location-limited mobile station searched in the registered area search step are compared with present location areas of the location-limited mobile station and thereby whether or not a match occurred between the registered areas and the present location areas is judged; and

a connection establishment step in which a connection establishment process is executed for the location-limited mobile station
20 if a match occurred in the area comparison step.

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38. A mobile radio communication method as claimed in claim
37, wherein the registered areas of each location-limited mobile station
are allowed to be altered so as to change the total area of the registered
areas.

39. A mobile radio communication method as claimed in claim
37, wherein the registered areas of each location-limited mobile station
are allowed to be altered to alternative registered areas during a preset
period.

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40. A machine-readable record medium storing a program for
instructing a machine, a computer unit, etc. to execute a mobile radio
communication method for a mobile radio communication system in
which location-limited mobile stations can be used, wherein the mobile
radio communication method comprises the steps of:

a registered area search step in which a registered area storage
means, in which information concerning registered areas which have
been registered as areas where a location-limited mobile station is
allowed to receive an incoming call is stored with regard to each location-

10 limited mobile station, is referred to and thereby the registered areas of a location-limited mobile station is searched for when an incoming call to the location-limited mobile station occurred;

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15 a paging step in which the location-limited mobile station is paged in the registered areas; and

a connection establishment step in which a connection establishment process is executed for the location-limited mobile station if the location-limited mobile station made a response to the paging.

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41. A mobile radio communication method as claimed in claim 40, wherein the registered areas of each location-limited mobile station are allowed to be altered so as to change the total area of the registered areas.

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42. A mobile radio communication method as claimed in claim 40, wherein the registered areas of each location-limited mobile station are allowed to be altered to alternative registered areas during a preset period.

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43. A machine-readable record medium storing a program for instructing a machine, a computer unit, etc. to execute a mobile radio communication method for a mobile radio communication system in which location-limited mobile stations can be used, wherein the mobile radio communication method comprises the steps of:

10 a paging step in which a location-limited mobile station is paged when an incoming call to the location-limited mobile station occurred;

a registered area search step in which a registered area storage means, in which information concerning registered areas which have been registered as areas where a location-limited mobile station is allowed to receive an incoming call is stored with regard to each location-

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limited mobile station, is referred to and thereby the registered areas of the location-limited mobile station is searched for; and

a connection establishment step in which a connection establishment process is executed for the location-limited mobile station if the location-limited mobile station made a response to the paging from its registered areas.

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44. A mobile radio communication method as claimed in claim 43, wherein the registered areas of each location-limited mobile station are allowed to be altered so as to change the total area of the registered areas.

45. A mobile radio communication method as claimed in claim 43, wherein the registered areas of each location-limited mobile station are allowed to be altered to alternative registered areas during a preset period.